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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,835	01/22/2004	Zhiqun Zhang	57902US004	7697
32692	7590	04/13/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			CHIESA, RICHARD L	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,835

Applicant(s)

ZHANG ET AL.

Examiner

Richard L. Chiesa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 32-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 32-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/22/04 & 6/7/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The preliminary amendment filed on January 22, 2004 has been entered.

Claim Rejections - 35 USC § 112

2. Claims 1-6, and 32-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is apparently no clear support in the specification or showing in the drawings for a “particulate collection surface being permanently electret charged” as now recited in the claims. It would appear that the specification presently discloses an electret charged particulate collection surface and not a permanently electret charged particulate collection surface.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

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improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-6, and 32-47 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,758,884. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would appear that the ion trap is an optional piece of equipment that can be eliminated without rendering the filtration system inoperative. Consequently, it would have been readily obvious to one having ordinary skill in the art to remove the ion trap of the patented filtration system in order to reduce expenses and produce a more simplified filter apparatus.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicants are advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nojima (U.S. Patent No. 5,925,170) in view of Hagglund et al (U.S. Patent Application Publication No. 2002/0005116). Nojima (note Figures 23, 26) shows a filtration system with ionization points 12 positioned inside and on the periphery of air channel 21, oppositely charged particulate collection surface 15, and fan 10 (note col. 2, line 1 to col. 3, line 11) substantially as claimed. It would appear that Nojima may not explicitly state that the particulate collection surface is an electret charged channel filter. In any case, Hagglund et al (note Figure 7) teach the well-known use of an electret charged channel filter 82 as a particulate collection surface downstream of a point ionizer 77 in a filtration system (note page 1, paragraphs [0003] to [0004], page 2, paragraphs [0018] to [0019], page 3, paragraph [0028], page 4, paragraph [0036], page 5, paragraphs [0040] to [0043]) for the purpose of ensuring the removal of different types of

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contaminants (note page 1, paragraph [0002]). Therefore, it would have been obvious to one having ordinary skill in the art to employ an electret charged channel filter as the downstream particulate collection surface in the Nojima filtration apparatus in order to facilitate the removal of various types of pollutants as taught by Hagglund et al.

8. Claims 32-35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nojima, taken together with Hagglund et al, as applied to claim 1 in paragraph 7 above, and further in view of Eliasson et al (U.S. Patent No. 4,734,105). Nojima, taken together with Hagglund et al, as described above in paragraph 7, discloses a filtration system substantially as claimed with the apparent exception of an oppositely directed air stream portion. However, Eliasson et al (note Figure 10) teach the use of an oppositely directed air flow stream portion 31 in an air filtration system for the purpose of maximizing particle separation (note col. 6, lines 31-60). It would have been obvious to one of ordinary skill in the art to employ an oppositely directed air flow stream portion in the Nojima and Hagglund et al filtration apparatus in order to facilitate particle separation as taught by Eliasson et al.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagglund et al (U.S. Patent Publication Application No. 2002/0005116) in view of Yikai et al (U.S. Patent No. 5,055,115). Hagglund et al (note Figure 7) show an air filtration system with a housing 70, ionization point 77, electret charged channel filter particulate collection surface 82, and an axial fan 71 (page 5, paragraphs [0040] to [0041]) substantially as claimed. It would appear that Hagglund et al may not explicitly state that the filtration system housing is portable. In any case,

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Yikai et al (note Figures 1, 2, 7-11, and col. 2, line 23 to col. 4, line 24) teach the use of a portable housing in an air filtration system for the purpose of facilitating usage and for this same reason it would have been obvious to one having ordinary skill in the art to employ such an expedient in the Hagglund et al air filtration apparatus.

10. Claims 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagglund et al, taken together with Yikai et al, as applied to claim 39 in paragraph 9 above, and further in view of Nojima (U.S. Patent No. 5,925,170). Hagglund et al, taken together with Yikai et al, as described above in paragraph 9, disclose an air filtration system substantially as claimed with the apparent exception of a plurality of upstream ionization points having an opposite charge from the downstream collection surface. In any case, Nojima, as described above in paragraph 7, teaches the use of ionization points upstream of an oppositely charged collection surface in an air filtration system for the purpose of ensuring maximum capture of all types of pollutants and for this same reason it would have been obvious to one of ordinary skill in the art to employ such an expedient in the Hagglund et al and Yikai et al air filtration apparatus.

11. Claims 3, 4, 36, and 45 rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 2, 32, or 44 above, and further in view of Smith et al (U.S. Patent No. 3,768,258). The prior art, as described above in any one of paragraphs 7, 8, or 10, discloses an air filtration system substantially as claimed with the apparent exception of an angled multi-point ionization head. Smith et al (note ref. num. 18, 31, 43, Figures 1-3) teach the well-known use of an angled multi-point ionization head in an air filtration system for the purpose of

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maximizing the dispersal of ions (note col. 2, line 1 to col. 3, line 11). It would have been obvious to one of ordinary skill in the art to employ an angled multi-point ionization head in any one of the prior art air filtration systems in order to facilitate the dispersal of ions as taught by Smith et al.

12. Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 45 in paragraph 11 above, and further in view of Eliasson et al for the reasons noted above in paragraph 8.

Drawings

13. The drawings filed on January 22, 2004 are accepted by the examiner.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-1700.

Facsimile correspondence must be transmitted through (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard L. Chiesa
April 12, 2006

Richard L. Chiesa

**RICHARD L. CHIESA
PRIMARY EXAMINER
ART UNIT 1724**

April 12, 2006